Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An electronic device, comprising:

three or more electrodes; and

a transporting layer comprised of a carbon nanotube structure comprising a plurality of carbon nanotubes and cross-linked sites on the carbon nanotubes, the carbon nanotube structure formed by functional groups of the carbon nanotubes bonded to each other by the cross-linked sites comprised of a hydrocarbon having 2 to 10 carbon atoms or formed by functional groups of the carbon nanotubes bonded to each other directly as the cross-linked sites, wherein the cross-linked sites connect the carbon nanotubes with each other by chemical bonding between the different carbon nanotubes, the transporting layer transporting a carrier when a voltage is applied to the electrodes;

wherein 50% or more of the cross-linked sites are identical; and

wherein the electrodes comprise at least a source electrode, a drain electrode, and a gate electrode to constitute a field effect transistor structure.

2. (Canceled)

3. (Previously Presented) An electronic device according to claim 1, wherein the field effect transistor structure comprises a MOS-FET structure.

4. (Previously Presented) An electronic device according to claim 1, wherein the field effect transistor structure comprises a MES-FET structure.

5. (Previously Presented) An electronic device according to claim 1, wherein, in the carbon nanotube structure, the carbon nanotubes connected by the cross-linked sites comprise more single-wall carbon nanotubes than multi-wall carbon nanotubes.

6. (Previously Presented) An electronic device according to claim 1, wherein, in the carbon nanotube structure, the carbon nanotubes connected by the cross-linked sites comprise more multi-wall carbon nanotubes than single-wall carbon nanotubes.

7. (Previously Presented) An electronic device according to claim 1, wherein chemical bonds constituting the cross-linked sites comprise at least one chemical bond selected from the group consisting of (-$COO(CH_2)_2OCO$-), -$COOCH_2CHOHCH_2OCO$-, -$COOCH_2CH(OCO$-$)CH_2OH$, -$COOCH_2CH(OCO$-$)CH_2OCO$-, and -COO-C_6H_4-COO-.

8. (Previously Presented) An electronic device according to claim 1, wherein chemical bonds constituting the cross-linked sites comprise at least one chemical bond selected from the group consisting of -COOCO-, -O-, -NHCO-, -COO-, -NCH-, -NH-, -S-, -O-, -NHCOO-, and -S-S-.

9. (Previously Presented) An electronic device according to claim 1, wherein the carbon nanotube structure is obtained by using a solution containing a plurality of carbon nanotubes to which functional groups are bonded and forming the cross-linked sites through chemical bonding of the functional groups bonded to the carbon nanotubes.

10. (Previously Presented) An electronic device according to claim 9, wherein the carbon nanotube structure is formed by functional groups of the carbon nanotubes bonded to each other by the cross-linked sites comprised of a hydrocarbon having 2 to 10 carbon atoms, and wherein the carbon nanotube structure is obtained by curing a solution containing the carbon nanotubes having functional groups and a cross-linking agent that prompts a cross-linking reaction with the functional groups, prompting a cross-linking reaction between each of the functional groups bonded to the different carbon nanotubes and the cross-linking agent, and forming the cross-linked sites.

11. (Previously Presented) An electronic device according to claim 10, wherein the cross-linking agent comprises a non-self-polymerizable cross-linking agent.

12. (Previously Presented) An electronic device according to claim 10, wherein the functional groups comprise at least one group selected from the group consisting of -OH, -COOH, -COOR (where R represents a substituted or unsubstituted hydrocarbon group), -COX (where X represents a halogen atom), $-NH_2$, and -NCO, and the cross-linking agent comprises a cross-linking agent which may prompt a cross-linking reaction with the selected functional groups.

13. (Previously Presented) An electronic device according to claim 10, wherein the cross-linking agent comprises at least one cross-linking agent selected from the group consisting of a polyol, a polyamine, a polycarboxylic acid, a polycarboxylate, a polycarboxylic acid halide, a polycarbodiimide, a polyisocyanate, and hydroquinone, wherein at least one functional group of the functional groups prompt a cross-linking reaction with the selected cross-linking agent.

14. (Previously Presented) An electronic device according to claim 10, wherein:

the functional groups comprise at least one group selected from the group consisting of -OH, -COOH, -COOR (where R represents a substituted or unsubstituted hydrocarbon group), -COX (where X represents a halogen atom), $-NH_2$, and -NCO;

the cross-linking agent comprises at least one cross-linking agent selected from the group consisting of a polyol, a polyamine, a polycarboxylic acid, a polycarboxylate, a polycarboxylic acid halide, a polycarbodiimide, a polyisocyanate, and hydroquinone; and

the functional groups and the cross-linking agent are respectively selected in such a manner that combination of the functional groups and the cross-linking agent may prompt a cross-linking reaction with each other.

15. (Previously Presented) An electronic device according to claim 9, wherein the carbon nanotube structure is formed by functional groups of the carbon nanotubes bonded to

each other directly as the cross-linked sites such that the cross-linked sites are constituted by chemical bonding of the functional groups.

16. (Previously Presented) An electronic device according to claim 15, wherein reactions for causing the chemical bonding comprise at least one selected from the group consisting of dehydration condensation, a substitution reaction, an addition reaction, and an oxidation reaction.

17. (Previously Presented) An electronic device according to claim 1, wherein the transporting layer is obtained by patterning the carbon nanotube structure into a shape corresponding to a formation area of the transporting layer.

18. (Previously Presented) An electronic device according to claim 1, further comprising a flexible substrate on which the electrode and the transporting layer are formed.

19. (Previously Presented) An integrated circuit, comprising: a substrate; and a plurality of electronic devices each of which is described in claim 1, the electrodes being integrated on the substrate.

20. (Withdrawn-Currently Amended) A method of manufacturing an electronic device that includes, on a base body, three or more electrodes and a transporting layer in which a carrier is transported in accordance with a voltage applied to the electrodes, comprising:

a supplying step of supplying the base body with a solution containing a plurality of carbon nanotubes to which functional groups are bonded; and

a cross-linking step of chemically bonding the functional groups, constructing a carbon nanotube structure comprising a plurality of carbon nanotubes and cross-linked sites on the carbon nanotubes, the carbon nanotube structure formed by functional groups of the carbon nanotubes bonded to each other by the cross-linked sites comprised of a hydrocarbon having 2 to 10 carbon atoms or formed by functional groups of the carbon nanotubes bonded

to each other directly as the cross-linked sites, wherein the cross-linked sites connect the carbon nanotubes with each other by chemical bonding between the different carbon nanotubes, forming the carbon nanotube structure as the transporting layer,

wherein 50% or more of the cross-linked sites are identical; and

wherein the electrodes comprise at least a source electrode, a drain electrode, and a gate electrode to constitute a field effect transistor structure.

21. (Withdrawn) A method of manufacturing an electronic device according to claim 20, wherein the supplying step comprises an applying step of applying the solution onto the base body, and the carbon nanotube structure is of a film shape.

22. (Withdrawn) A method of manufacturing an electronic device according to claim 20, wherein the carbon nanotubes comprise more single-wall carbon nanotubes than multi-wall carbon nanotubes.

23. (Withdrawn) A method of manufacturing an electronic device according to claim 20, wherein the carbon nanotubes comprise more multi-wall carbon nanotubes than single-wall carbon nanotubes.

24. (Withdrawn) A method of manufacturing an electronic device according to claim 20, wherein the solution contains a cross-linking agent for cross-linking the functional groups.

25. (Withdrawn) A method of manufacturing an electronic device according to claim 24, wherein the cross-linking agent comprises a non-self-polymerizable cross-linking agent.

26. (Withdrawn) A method of manufacturing an electronic device according to claim 24, wherein the functional groups comprise at least one group selected from the group consisting of -OH, -COOH, -COOR (where R represents a substituted or unsubstituted hydrocarbon group), -COX (where X represents a halogen atom), $-NH_2$, and -NCO, and the

cross-linking agent comprises a cross-linking agent which may prompt a cross-linking reaction with the selected functional groups.

27. (Withdrawn) A method of manufacturing an electronic device according to claim 24, wherein the cross-linking agent comprises at least one cross-linking agent selected from the group consisting of a polyol, a polyamine, a polycarboxylic acid, a polycarboxylate, a polycarboxylic acid halide, a polycarbodiimide, a polyisocyanate, and hydroquinone, and the functional groups comprise functional groups which may prompt a cross-linking reaction with the selected cross-linking agent.

28. (Withdrawn) A method of manufacturing an electronic device according to claim 24, wherein:

the functional groups comprise at least one group selected from the group consisting of -OH, -COOH, -COOR (where R represents a substituted or unsubstituted hydrocarbon group), -COX (where X represents a halogen atom), $-NH_2$, and -NCO;

the cross-linking agent comprises at least one cross-linking agent selected from the group consisting of a polyol, a polyamine, a polycarboxylic acid, a polycarboxylate, a polycarboxylic acid halide, a polycarbodiimide, a polyisocyanate, and hydroquinone; and

the functional groups and the cross-linking agent are respectively selected in such a manner that combination of the functional groups and the cross-linking agent may prompt a cross-linking reaction with each other.

29. (Withdrawn) A method of manufacturing an electronic device according to claim 24, wherein the functional groups comprise -COOR (where R represents a substituted or unsubstituted hydrocarbon group).

30. (Withdrawn) A method of manufacturing an electronic device according to claim 29, wherein the cross-linking agent comprises a polyol.

31. (Withdrawn) A method of manufacturing an electronic device according to claim 30, wherein the cross-linking agent comprises glycerin and/or ethylene glycol.

32. (Withdrawn) A method of manufacturing an electronic device according to claim 20, wherein a reaction for causing the chemical bonding comprises a reaction for chemically bonding the functional groups.

33. (Withdrawn) A method of manufacturing an electronic device according to claim 32, wherein the solution contains an additive for causing the chemical bonding of the functional groups.

34. (Withdrawn) A method of manufacturing an electronic device according to claim 33, wherein the reaction comprises dehydration condensation and the additive comprises a condensation agent.

35. (Withdrawn) A method of manufacturing an electronic device according to claim 34, wherein the functional groups comprise at least one selected from -COOR (where R represents a substituted or unsubstituted hydrocarbon group), -COOH, -COX (where X represents a halogen atom), -OH, -CHO, and $-NH_2$.

36. (Withdrawn) A method of manufacturing an electronic device according to claim 35, wherein the functional groups comprise -COOH.

37. (Withdrawn) A method of manufacturing an electronic device according to claim 34, wherein the condensation agent comprises at least one compound selected from the group consisting of sulfuric acid, N-ethyl-N'-(3-dimethylaminopropyl)carbodiimide, and dicyclohexyl carbodiimide.

38. (Withdrawn) A method of manufacturing an electronic device according to claim 33, wherein the reaction comprises a substitution reaction and the additive comprises a base.

39. (Withdrawn) A method of manufacturing an electronic device according to claim 38, wherein the functional groups comprise at least one group selected from the group consisting of $-NH_2$, -X (where X represents a halogen atom), -SH, -OH, $-OSO_2CH_3$, and $-OSO_2(C_6H_4)CH_3$.

40. (Withdrawn) A method of manufacturing an electronic device according to claim 38, wherein the base comprises at least one compound selected from the group consisting of sodium hydroxide, potassium hydroxide, pyridine, and sodium ethoxide.

41. (Withdrawn) A method of manufacturing an electronic device according to claim 32, wherein the reaction comprises an addition reaction.

42. (Withdrawn) A method of manufacturing an electronic device according to claim 41, wherein the functional groups comprise -OH and/or -NCO.

43. (Withdrawn) A method of manufacturing an electronic device according to claim 32, wherein the reaction comprises an oxidation reaction.

44. (Withdrawn) A method of manufacturing an electronic device according to claim 43, wherein the functional groups comprise -SH.

45. (Withdrawn) A method of manufacturing an electronic device according to claim 43, wherein the solution contains an oxidation reaction accelerator.

46. (Withdrawn) A method of manufacturing an electronic device according to claim 45, wherein the oxidation reaction accelerator comprises iodine.

47. (Withdrawn) A method of manufacturing an electronic device according to claim 20, wherein the solution further contains a solvent.

48. (Withdrawn) A method of manufacturing an electronic device according to claim 24, wherein the cross-linking agent serves also as a solvent.

49. (Withdrawn) A method of manufacturing an electronic device according to claim 20, further comprising a patterning step of patterning the carbon nanotube structure layer into a shape corresponding to the transporting layer.

50. (Withdrawn) A method of manufacturing an electronic device according to claim 49, wherein the patterning step comprises a step involving: subjecting a carbon nanotube structure layer in a region having a pattern other than a pattern corresponding to the transporting layer on a surface of the base body to dry etching to remove the carbon nanotube structure layer in the region; and patterning the carbon nanotube structure layer into the pattern corresponding to the transporting layer.

51. (Withdrawn) A method of manufacturing an electronic device according to claim 49, wherein the patterning step comprises:

a resist layer forming step of forming a resist layer on the carbon nanotube structure layer in the region having the pattern corresponding to the transporting layer on the surface of the base body; and

a removing step of removing a carbon nanotube structure layer exposed in a region other than the region by subjecting a surface of the base body on which the carbon nanotube structure layer and the resist layer are laminated to dry etching.

52. (Withdrawn) A method of manufacturing an electronic device according to claim 51, wherein, in the removing step, the surface of the base body on which the carbon nanotube structure layer and the resist layer are laminated is irradiated with a radical of an oxygen molecule.

53. (Withdrawn) A method of manufacturing an electronic device according to claim 52, wherein an oxygen radical is generated by irradiating an oxygen molecule with ultraviolet light, the oxygen radical being used as the radical with which the surface of the base body on which the carbon nanotube structure layer and the resist layer are laminated is irradiated.

54. (Withdrawn) A method of manufacturing an electronic device according to claim 51, wherein the patterning step further includes, subsequent to the removing step, a resist layer peeling-off step of peeling off the resist layer formed in the resist layer forming step.

55. (Withdrawn) A method of manufacturing an electronic device according to claim 54, wherein the resist layer comprises a resin layer.

56. (Withdrawn) A method of manufacturing an electronic device according to claim 50, wherein the patterning step comprises a step involving: selectively irradiating the carbon nanotube structure layer in the region having a pattern other than the pattern corresponding to the transporting layer on the surface of the base body with an ion of a gas molecule in a form of an ion beam to remove the carbon nanotube structure layer in the region; and patterning the carbon nanotube structure layer into the pattern corresponding to the transporting layer.

57. (Previously Presented) An electronic device according to claim 1, wherein the carbon nanotube structure is formed by functional groups of the carbon nanotubes bonded to each other by the cross-linked sites comprised of a hydrocarbon having 2 to 5 carbon atoms.

58. (Previously Presented) An electronic device according to claim 1, wherein the carbon nanotube structure is formed by functional groups of the carbon nanotubes bonded to each other by the cross-linked sites comprised of a hydrocarbon having 2 to 3 carbon atoms.